

Patent Application  
Docket No. 45688-00002USPT

In the Claims:

1 1. (Currently Amended) A flip-chip light-emitting device, comprising  
2 a transparent substrate comprising a main surface and a surface opposite to said  
3 main surface, wherein said surface opposite to said main surface is the light-emitting surface of  
4 said device;

5 a semiconductor stacked structure arranged over a said main surface of said  
6 transparent substrate wherein said stacked structure comprises an n-type GaN-based III-V Group  
7 compound semiconductor layer adjacent to said main surface and a p-type GaN-based III-V  
8 Group compound semiconductor layer adjacent to said n-type semiconductor layer;

9 a first electrode being in electrical contact with said n-type semiconductor layer,  
10 and

11 a second electrode being in electrical contact with said p-type semiconductor  
12 layer;

13 wherein said second electrode has good reflectivity of light and, covers most of  
14 the outer surface of said p-type semiconductor layer and is positioned opposite to said light-  
15 emitting surface of said substrate.

1 2. (Original) The device of Claim 1 wherein said stacked structure further comprises an  
2 active layer placed between said n-type semiconductor layer and said p-type semiconductor  
3 layer.

1 3. (Original) The device of Claims 1 or 2 further comprising an insulating layer at least  
2 coated on the side surface of the stacked structure, a portion of said first electrode and a portion  
3 of said second electrode.

Patent Application  
Docket No. 45688-00002USPT

1           4 (Original) The device of Claims 1 or 2 further comprising a base which has a first  
2   and a second conductive portions respectively connected to said first and second electrodes.

1           5 (Original) The device of Claim 4 wherein said base can be a conductive lead frame, a  
2   glass lead frame, a circuit board or a thin-film circuit.

1           6 (Original) The device of Claims 1 or 2 wherein said second electrode is a multi-layer  
2   structure comprising a light-transmitting conductive layer and a layer of aluminum (AL) or silver  
3   (Ag).

1           7 (Original) The device of Claims 1 or 2 wherein said second electrode is a multi-layer  
2   structure of nickel/gold/titanium/ aluminum (Ni/Au/Ti/Al), Indium-Tin Oxide/aluminum  
3   (ITO/Al) or Indium-Tin Oxide/silver (ITO/Ag).

1           8. (Currently Amended) A flip-chip light-emitting device, comprising:  
2           a transparent substrate comprising a main surface and a surface opposite to said  
3   main surface, wherein said surface opposite to said main surface is the light-emitting surface of  
4   said device;

5           a semiconductor stacked structure arranged over [a] said main surface of said  
6   transparent substrate wherein said stacked structure comprises an p-type GaN-based III-V group  
7   compound semiconductor layer adjacent to said main surface and a n-type GaN-based III-V  
8   Group compound semiconductor layer adjacent to said p-type semiconductor layer;

Patent Application  
Docket No 45688-00002USPT

9 a first electrode being in electrical contact with said n-type semiconductor layer;  
10 and  
11 a second electrode being in electrical contact with said p-type semiconductor  
12 layer,  
13 wherein said first electrode has good reflectivity of light ~~and~~, and covers most of  
14 the outer surface of said n-type semiconductor layer and is positioned opposite to said light-  
15 emitting surface of said substrate.

1 9. (Original) The device of Claim 8 wherein said stacked structure further comprises an  
2 active layer placed between said n-type semiconductor layer said the p-type semiconductor layer.

1 10. (Original) The device of Claims 8 or 9 further comprising an insulating layer at least  
2 coated on the side surface of the stacked structure, a portion of said first electrode and a portion  
3 of said second electrode

1 11. (Original) The device of Claims 8 or 9 further comprising a base which has a first  
2 and a second conductive portions respectively connected to said first and second electrodes.

1 12. (Original) The device of Claim 11 wherein said base can be a conductive lead frame,  
2 a glass lead frame, a circuit board or a thin-film circuit.

1 13. (Original) The device of Claims 8 or 9 wherein said second electrode is a multi-layer  
2 structure comprising a light-transmitting conductive layer and a layer of aluminum (Al) or silver  
3 (Ag)

Patent Application  
Docket No. 45688-00002USPT

- 1 14. (Original) The device of Claims 8 or 9 wherein said second electrode is a multi-layer
- 2 structure of titanium/aluminum (Ti/Al), titanium/silver (Ti/Ag), Indium-Tin Oxide/aluminum
- 3 (ITO/Al) or Indium-Tin Oxide/silver (ITO/Ag).